

IN THE CLAIMS

Please amend the claims as follows:

1. (presently amended) A method of controlling a data transmission memory for the transmission of data packets between subscribers in which a chained subscriber-pointer address list with address pointers for addressing data memory blocks of a data memory is stored for each subscriber \mathbb{T} in a pointer address memory, wherein each said data memory block comprises a plurality of data memory cells: and storing said subscriber-pointer address list, a beginning address pointer to the last memory block, the number of data memory blocks and a filling level of the last data memory block in a subscriber state register.

Claims 2-3. (Canceled).

4. (previously amended) The method as claimed in claim 1, in which, in a reception operating mode, reception data packets are received from various source subscribers via a reception data bus and are stored in data memory cells of a data memory block addressed by the subscriber-pointer address list.

5. (presently amended) The method as claimed in claim 1, in which, in a transmission operating mode, output data packets are in each case read out from a data memory block and sent to an associated destination subscriber via an output data bus.

6. (presently amended) The method as claimed in claim 4, in which each reception data packet contains destination information data for identifying a destination subscriber for which the reception data packet is intended.

7. (presently amended) The method as claimed in claim 1, in which a memory size of a data memory cell corresponds to the size of an input data packet and a memory size of a data memory block preferably corresponds to the size of an output data packet.

Claim 8. (Cancelled).

Claim 9. (Cancelled).

10. (presently amended) The method as claimed in claim 1, in which a pointer address list of the free pointer addresses is stored in the pointer address memory, so that the pointer address memory forms a reproduction of the data memory.

11. (presently amended) The method as claimed in claim 6, in which, in the reception operating mode, a last received reception data packet is written according to a stored filling state into a next free memory cell of a last data memory block of the destination subscriber, identified by the reception data packet.

12. (presently amended) The method as claimed in claim 11, in which, after the reception data packet has been written into the last data memory block of the destination subscriber, a filing state is incremented in a associated state register.

13. (presently amended) The method as claimed in claim 8, in which the chained subscriber-pointer address list is extended by adding a chained address pointer for addressing a further data memory block if all memory cells of a last data memory block of the destination subscriber are filled after a writing operation.

14. (presented amended) The method as claimed in claim 1, in which, in a transmission operating mode, a first data memory block of the destination subscriber is sent as an output data packet.

15. (presently amended) The method as claimed in claim 14, in which, after the first memory data block has been sent, the chained subscriber-pointer address list is shortened by removing a beginning address pointer, pointing to the first data block.

16. (presently amended) The method as claimed in claim 1, in which a reception operating mode for writing reception data packets into the data transmission memory has priority over a transmission operating mode for sending output data packets from the data transmission memory.

17. (presented amended) A data transmission memory for the transmission of data packets between subscribers with a pointer address memory for storing chained subscriber-pointer address lists, comprising pointer addresses, for each subscriber; a plurality of subscriber state registers, which store the state of an associated subscriber-pointer address list; a data memory for storing data blocks which can be addressed by the pointer addresses; and with a memory controller for controlling the pointer address memory and the data memory-, a beginning address pointer to the last memory block, the number of data memory blocks and a filling level of the last data memory block in a subscriber state register.

18. (presently amended) The data transmission memory as claimed in claim 17, wherein the data memory is a SRAM.

19. (presently amended) The data transmission memory as claimed in claim 17, wherein the pointer address memory is an SRAM.

20. (presently amended) The data transmission memory as claimed in claim 17, wherein the memory controller is connected to source subscribers via a reception data bus and to subscribers via a transmission data bus.

21. (presently amended) The data transmission memory as claimed in claim 20, wherein the transmission data bus and reception data bus are bidirectional buses for bidirectional data transmission.

22. (presently amended) The data transmission memory as claimed in claim 21, wherein the transmission data bus and reception data bus are Ethernet buses.